



DEPARTMENT OF THE ARMY
CHIEF OF ENGINEERS
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WASHINGTON, DC 20310-2600

08 FEB 2015

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SUBJECT: Portsmouth Harbor and Piscataqua River Navigation Improvement Project, New Hampshire and Maine

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on navigation improvements for Portsmouth Harbor and Piscataqua River, New Hampshire and Maine. It is accompanied by the reports of the New England District Engineer and the North Atlantic Division Engineer. These reports were prepared in response to a study authority contained in Section 436 of the Water Resources Development Act (WRDA) of 2000 (P.L. 106-541) which called on the Secretary to conduct a study to determine the feasibility of modifying the project for navigation, Portsmouth Harbor and Piscataqua River, Maine and New Hampshire, authorized by Section 101 of the Rivers and Harbors Act of 1962 (76 Stat. 1173) and modified by Section 202(a) of WRDA 1986 (100 Stat. 4095), to increase the authorized width of turning basins in the Piscataqua River to 1,000 feet. Further, Section 216 of the Flood Control Act of 1970 also provides the Corps general authority to review completed civil works projects when found advisable due to the significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.

2. The report recommends implementation of a project that will contribute significantly to the economic efficiency of commercial navigation in Portsmouth Harbor. Portsmouth Harbor is located on the North Atlantic U.S. coast about 45 miles north of Boston Harbor and is New Hampshire's largest port. The river and harbor form a portion of the boundary between the states of New Hampshire and Maine. The deep-draft harbor consists of a -35-foot channel at mean lower low water (MLLW) extending about six miles from deepwater in its entrance from the Gulf of Maine upriver to below the entrance to Great Bay. The channel has a minimum width of 400 feet, and has been widened through critical ledge areas, bends, bridge approaches and turning areas in the reaches below the upper-most highway bridge, most recently under modifications made by WRDA 1986 which were completed in 1992. This study focused on the upper project reaches not addressed by the 1986 improvements. The New Hampshire Pease Development Authority, Division of Ports and Harbors, is the non-Federal cost-sharing partner.

3. The reporting officers identified a plan for navigation improvement consisting of widening the upper turning basin at the head of the channel from its current width of 800 feet to a width of 1200 feet. This would be accomplished at the existing 35-foot project depth, and would enable bulk cargo carriers, including petroleum products tankers, of up to 800 feet in length to safely turn and transit the upper channel reaches. These are the largest ships now navigating the



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waterway, and the largest that can safely pass the bridge openings. This improvement will contribute significantly to the safety of the waterway and the economic efficiency of commercial navigation in the region. Local Service facilities are adequate for existing and prospective commerce. The recommendation is supported by the non-Federal sponsor.

4. The U.S. Environmental Protection Agency has concurred in the determination that the improvement project dredged materials are parent materials of largely glacial origin and suitable for unconfined ocean water disposal. The project would require the removal of about 728,100 cubic yards of dredged material and 25,300 cubic yards of rock. The Federal National Economic Development Plan identified for this project would involve the placement of all of the dredged material and rock at the Isles of Shoals North ocean placement site, located about ten miles seaward of the mouth of the harbor. This is the Federal Base Plan for dredging and disposal of dredged materials and is the recommended plan of improvement.

5. However, it is the policy of the U.S. Army Corps of Engineers to use dredged material, where practicable, for beneficial use. Potential beneficial uses for the sandy material and rock have been proposed by shorefront communities in Maine and Massachusetts and are discussed by the reporting officers. The use of the sandy material for nearshore placement as feeder bars offshore of eroding beaches has been proposed by the Town of Wells, Maine, and the City of Newburyport and Towns of Salisbury and Newbury in Massachusetts. Use of the rock to create a submerged wave break at Pepperrell Cove has been proposed by the Town of Kittery, Maine. These communities will be responsible for securing all necessary Federal, state and local approvals for placement of these materials at these sites and for these purposes. These communities are also responsible to fund the costs of these placement alternative over and above the cost of the Federal Base Plan. Neither the Government or the non-Federal sponsor are parties to these alternative placement proposals. To the extent that these proponents fail to secure the necessary regulatory approvals or provide the required additional funding, the Federal Base Plan would be implemented for all or that portion of the material.

6. Project costs for the Federal Base Plan are allocated to the commercial navigation purpose and are based on October 2014 price levels.

a. Project First Cost. The estimated project first cost of construction is \$20,770,000 which includes the cost of constructing General Navigation Features (GNFs) and the value of lands, easements, rights-of-way and relocations estimated as follows: \$18,880,000 for turning basin modification and ocean placement of dredged material; \$0 for lands, easements, and rights-of-way, and relocations provided by the non-Federal sponsor; \$1,030,000 for planning, engineering and design efforts; and \$860,000 for construction management.

b. Estimated Federal and Non-Federal Shares: The estimated Federal and non-Federal shares of the project first cost are \$15,580,000 and \$5,190,000, respectively, as apportioned in accordance with the cost sharing provisions of Section 101(a) of WRDA 1986, as amended (33 U.S.C. 2211(a)).

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c. There are no lands, easements, rights-of-way or relocations required for the project. The dredging and dredged material placement sites are all subtidal. All construction will be accomplished with floating plant and equipment. Therefore, the estimated value of lands, easements, rights-of-way, and relocations that the non-Federal sponsor must provide pursuant to Section 101(a)(3) of WRDA 1986, as amended (33 U.S.C. 2211(a)(3)) is \$0.

d. Additional 10 Percent Payment. In addition to payment by the non-Federal sponsor of its share of the project first costs determined in sub-paragraphs b(1), b(2) and b(3) above, pursuant to Section 101(a)(2) of WRDA 1986, as amended (33 U.S.C. 2211(a)(2)), the non-Federal sponsor must pay an additional 10 percent of the cost of the general navigation features of the project in cash over a period not to exceed 30 years, with interest. The additional 10 percent payment without interest is estimated to be \$2,080,000. The value of lands, easements, rights-of-way, and relocations, estimated as \$0, provided by the non-Federal sponsor under Section 101(a)(3) of WRDA 1986, as amended, will be credited toward payment of this amount.

e. Operations and Maintenance Costs. Due to lack of sediment sources and currents in the river the upper turning basin has not required maintenance since its initial completion in 1966. It is expected that widening the turning basin will not increase the existing maintenance frequency. An amount equal to one percent of the project first cost was calculated for increased annual maintenance to be borne by the Federal Government, or \$203,700.

f. Associated Costs. Local service facilities are adequate for existing and prospective commerce. No project deepening is planned. The U.S. Coast Guard has determined that no new aids to navigation will be required.

g. Authorized Project Cost and Section 902 Calculation. The project first cost for the purpose of calculating the maximum cost of the project pursuant to Section 902 of WRDA 1986, as amended, includes the cost of constructing the GNFs and the value of lands, easements, and rights-of-way. Accordingly, as set forth in paragraph 6, above, based on October 2014 price levels, the total estimated project first cost for these purposes is \$20,770,000 with an estimated Federal share of \$15,580,000 and an estimated non-Federal share of \$5,190,000. Based on a discount rate of 3.375 percent, and a 50-year period of economic analysis, the project average annual benefits and costs are estimated at \$3,290,000 and \$1,060,000, respectively, with resulting net excess benefits of \$2,230,000 and a benefit-to-cost ratio of 3.1.

7. The goals and objectives included in the Campaign Plan of the Corps have been fully integrated into the Portsmouth Harbor and Piscataqua River study process. The recommended plan was developed in coordination and consultation with various Federal, state and local agencies using a systematic and regional approach to formulating solutions and evaluating the benefits and impacts that would result.

8. Risk and uncertainty were evaluated for economic benefits, costs, and sea level rise. In accordance with the Corps Engineer Circular EC 1165-2-212 on sea level change the study analyzed three sea level rise rates. Historic, mid-level and maximum expected sea level rise

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were estimated at 0.3, 1.5 and 2.2 feet, respectively, over the 50-year project life. The study concluded that no impact would result from sea level rise with respect to dredging and channel use, and that terminal facilities would continue to operate with some likelihood that the maximum level of sea level rise may require modification of the terminal facilities by private operators at some point in the future, such as increasing pier deck elevations.

9. In accordance with the Corps Engineer Circular EC 1165-2-214 on review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic, and vigorous review process to ensure technical quality. This included District Quality Control, Agency Technical Review (ATR), Policy and Legal Compliance Review, Cost Engineering Directory of Expertise Review and Certification, and Model Review and Approval. All concerns of the ATR have been addressed and incorporated into the final report. The comments were related to transportation cost savings documentation, vessel fleet analysis, blasting impacts, and beneficial use of sand and rock. The comments and responses were reviewed by the Deep Draft Navigation Planning Center of Expertise which certified 12 June 2014 that all comments had been satisfactorily addressed. In response, the final Feasibility Report and Final Environmental Assessment include additional information.

10. Washington level review indicates that the plan recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies. Further the recommended plan complies with other administration and legislative policies and guidelines. The views of interested parties, including Federal, state and local agencies, have been considered. State and agency comments received during review of the final report and environmental assessment included concerns raised by the Maine Department of Environmental Protection related to its review and approval of potential alternate sites to the Federal base plan for disposal should a third party in the state of Maine wish to use the material. The National Marine Fisheries Service provided comments in relation to inclusion of the outcome of the required consultation under Section 7 of the Endangered Species Act in the Chief's Report, its preferred location of correspondence in the feasibility report and providing a blasting plan for the project 30 days prior to detonation.

11. I concur in the findings, conclusions, and recommendation of the reporting officers. Accordingly, I recommend that navigation improvements for Portsmouth Harbor and Piscataqua River, New Hampshire and Maine be authorized in accordance with the reporting officers' recommended plan at an estimated cost of \$20,770,000, with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of Federal and state laws and policies, including Section 101 of WRDA 1986, as amended (33 U.S.C. 2211). The non-Federal sponsor would provide the non-Federal cost share and all lands, easements, and rights-of-way, including those necessary for the borrowing of material and the disposal of dredged or excavated material, and would perform or assure the performance of all relocations, including utility relocations. This recommendation is subject to the non-Federal sponsor agreeing, in a Design Phase

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Agreement prior to initiating project design, and in a Project Partnership Agreement prior to project implementation, to comply with all applicable Federal laws and policies, including but not limited to the following requirements:

a. Provide, during the periods of design and construction, funds necessary to make its total contribution for commercial navigation equal to:

(1) 10 percent of the cost of design and construction of the GNFs attributable to dredging to a depth not in excess of -20 feet MLLW; and,

(2) 25 percent of the cost of design and construction of the GNFs attributable to dredging to a depth in excess of -20 feet MLLW but not in excess of -45 feet MLLW.

b. Provide all lands, easement, and rights-of-way, including those necessary for the borrowing of material and placement of dredged or excavated material, and perform or assure performance of all relocations, including utility relocations, all as determined by the Government to be necessary for the construction or operation and maintenance of the GNFs.

c. Pay with interest, over a period not to exceed 30 years following completion of the period of construction of the GNFs, an additional amount equal to 10 percent of the total cost of construction of GNFs less the amount of credit afforded by the Government for the value of the lands, easements, and rights-of-way, and relocations, including utility relocations, provided by the non-Federal sponsor for the GNFs. If the amount of credit afforded by the Government for the value of lands, easements, and rights-of-way, and relocations, including utility relocations, provided by the non-Federal sponsor equals or exceeds 10 percent of the total cost of construction of the GNFs, the non-Federal sponsor shall not be required to make any contribution under this paragraph, nor shall it be entitled to any refund for the value of lands, easements, and rights-of-way, and relocations, including utility relocations, in excess of 10 percent of the total costs of construction of the GNFs.

d. Provide, operate, and maintain, at no cost to the Government, the local service facilities in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and state laws and regulations and any specific directions prescribed by the Government, including but not limited to providing depths in the berths at the River Road and Avery Lane terminals at least equal to that of the adjacent Federal channel and turning basin.

e. Give the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal sponsor owns or controls for access to the project for the purpose of completing, inspecting, operating and maintaining the GNFs.

f. Hold and save the United States free from all damages arising from the construction or operation and maintenance of the project, any betterments, and the local service facilities, except for damages due to the fault or negligence of the United States or its contractors.

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g. Keep and maintain books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of three years after completion of

the accounting for which such books, records, documents, and other evidence is required, to the extent and in such detail as will properly reflect total cost of the project, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to state and local governments at 32 CFR, Section 33.20.

h. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601-9675, that may exist in, on, or under Lands, Easements and Rights-of-way that the Federal Government determines to be necessary for the construction or operation and maintenance of the GNFs. However, for lands, easements, or rights-of-way that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigation unless the Federal Government provides the non-Federal sponsor with prior specific written direction, in which case the non-Federal sponsor shall perform such investigations in accordance with such written direction.

j. Assume complete financial responsibility, as between the Federal Government and the non-Federal sponsor, for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under LER that the Federal Government determines to be necessary for the construction or operation and maintenance of the project.

k. To the maximum extent practicable, perform its obligations in a manner that will not cause liability to arise under CERCLA.

l. Comply with Section 221 of P.L. 91-611, Flood Control Act of 1970, as amended, (42 U.S.C. 1962(d-5b) and Section 101(e) of WRDA 1986, Public Law 99-662, as amended, (33 U.S.C. 2211(e)) which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until the non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element.

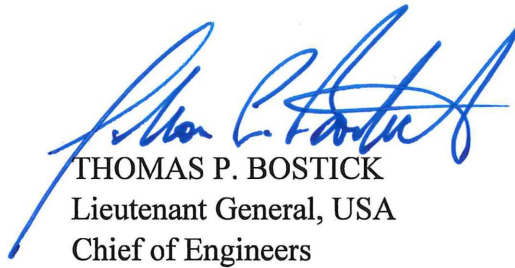
m. Provide the non-Federal share of that portion of the costs of mitigation and data recovery activities associated with historic preservation that are in excess of 1 percent of the total amount authorized to be appropriated for the project.

12. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the Executive Branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a

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proposal for authorization and implementation funding. However, prior to transmittal to Congress, the states of New Hampshire and Maine, the New Hampshire Pease Development Authority, Division of Ports and Harbors (the non-Federal sponsor), interested Federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.



THOMAS P. BOSTICK
Lieutenant General, USA
Chief of Engineers